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ABSTRACT

Public librarians have been providing consumers access to health and medical information for approximately 20 years. Changes in the American health care environment in the 1990s suggest that the role of public librarians in the provision of health and medical information will grow exponentially in the 21st century. This report describes a study of the provision of consumer health information by public librarians in Michigan. A survey was sent to 659 public main and branch libraries in Michigan, eliciting a response rate of 53.5% (n=353). The survey looked at the nature and frequency of health-related questions; who uses the library for health information; the status of consumer health information collections; type of health information services provided; training public librarians possess to respond to health queries; problems experienced by librarians in responding to health questions; and what public librarians feel would help them improve their service effectiveness. The majority of respondents had spent more than 10 years providing health information. The primary method of preparation for fielding health information queries was on-the-job training. Adults and mature adults comprised almost half (49%) of the clientele using public libraries and were the ones who most frequently asked for health information. Respondents performed a variety of health-related functions: reference services, collection development, interlibrary loan, and selection, acquisition, and maintenance of health materials. The most frequent duty was reference service to patrons in the library. More than half the respondents indicated that patrons asked health-related questions often to very often. Appendices include consumer health information questionnaire, accompanying letter, and compilation of sources identified by respondents. (Contains 25 references.) (SWC)

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The Provision of Consumer Health Information by Public Librarians in Michigan

Final Report
of a Research Project
Funded by
Small Research Grants Program
Wayne State University

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Consumer health information has been defined as "any information that enables individuals to understand their health and make health-related decisions for themselves or their families (Patrick & Koss, cited in Deering & Harris, 1996, p. 210). Public librarians have been providing consumers access to health and medical information for approximately twenty years. Changes in the American health care environment in the 1990s suggest, however, that the role of public librarians in the provision of health and medical information will grow exponentially in the twenty-first century.

One change that has occurred over the past ten years in health care environment concerns the replacement of the old "fee-for-service" model of health care with managed care and health maintenance organizations (HMOs). Instead of being admitted to the hospital for elective procedures, consumers are now having them done in an outpatient setting (Masys, 1996). Furthermore, in HMOs, consumers do not have any guarantee that, with each appointment, they will see or talk with the same physician. These changes mean that the consumer will have less exposure to health care professionals and less time to seek information from them. To be informed, they will have to find information from other sources.

The call by the U.S. Department of Health and Human Services (1992) in the document Healthy People 2000 for community-based interventions and programs for health promotion and disease prevention also reflects a change from dependent to independent health consumers. These programs are an "attempt to reach and improve the health of many people, outside the traditional health care settings" (p. 250). Community-based programs will require public librarians not only to have current and more comprehensive collections of health information, but also to form relationships with the organizations, schools, or businesses who are implementing health promotion or disease prevention programs.

The constant barrage of health and medical information through the media, as well as the increased availability of health books and magazines, attests to the general public's heightened interest in health-related matters. In addition to the need for personal health information, patrons may also be seeking information on an "interest-only basis." The decreased availability of health care professionals to answer questions may prompt consumers to seek information from less traditional sources, such as public libraries.

In 1991, Rees stated that "there is a dearth of data that measures the extent of the popular demand for health information" (p. 27). This project was undertaken, therefore, to obtain a picture of the provision of consumer health information by public librarians in Michigan, and to ascertain the types of health or medical requests received and the problems encountered by librarians in meeting them.

Literature Review

Patients, the "doctor's problem" in the 1950s, had become the "patient's problem" by the 1980s, and by the early 1990s, were poised to become the "librarian's problem" as patients became progressively more responsible for their own health care (Paris, 1994). To meet this unprecedented challenge, library professionals have been forced to define new perspectives on library service. During the past decade, the bulk of research on the public library provision of health care information has centered on three key topics: the theoretical basis for offering such service, the mechanics of providing such information, and the building of consumer health resource collections. To date, as demonstrated by discussions in the recent professional literature, personnel training, library budgets, collection scope, and the ethics of providing consumer health information service remain the unresolved issues among these topics.

Underlying each issue is the realization that the responsibility of the public library to provide health care information to its patrons represents a profoundly new mission for the librarian: an active role in the education of library patrons. As defined by Paris (1994): "It is no longer enough for librarians to collect and supply medical information with no concern for the consequences. Librarians must assume a greater sense of responsibility for the information they provide" (p. 772). This 1990's view contrasts sharply with the position prevailing from the 1950s through the 1980s, supported by both the Medical Library Association and the American Library Association, and articulated by professionals such as Beattie (1988) and Chambers (cited in Paris, 1994), that medical reference service should be limited and no advice given. The view of Rees (cited in Paris, 1994) in the late 1980s represents the gradual change in attitude about providing such service. He emphasized, in essence, that because medical information is published and available, librarians are obligated to supply it to the best of their ability. By 1991, as exemplified by Wood's outline of public service ethics for health sciences librarians, which applied equally to public librarians, serious discussion has centered on defining an ethical code that addressed issues such as confidentiality, intellectual freedom, accountability, and liability in the dissemination of health care information to consumers by librarians. Currently, discussions of the formulation of an ethical model are ongoing in the literature.

The practical aspects of providing health information to patrons according to the evolving ethics code became an increasing research focus beginning in the late 1980s. Professionals varied widely in their approach. Beattie (1988) and Teidrich (1994), for example, each outlined procedures for conducting insightful interviews of patrons seeking medical information. Emphasized in both plans was the importance of librarians having exact parameters to follow in providing such service. Beattie (1988) stressed a conservative approach, which centered on concerns about confidentiality, tact, and effective communication in a setting that encouraged no

librarian advice or interpretation of information and limited phone service. By contrast, in 1994, Teidrich emphasized discerning interpretation of queries and the importance of referrals. But how librarians are to be trained, collections built, and budgets accommodated to provide the sensitive service that Beattie and Teidrich recommended remain open questions in 1997.

Mindful of the often prohibitive costs and confusing selection of health or medical material for public library patrons, library professionals, beginning in the mid-1980s, increasingly focused on the selection and evaluation of available resources. For example, Remington and Ferrill (1997) and White (1985) listed medical titles arranged by resource type. Gawdyda-Merolla (1992) offered an evaluative comparison of two databases, Health Periodicals Database and Combined Health Information Database, to Medline for their effectiveness in addressing public library consumer health information needs. Yet still necessary are additional comprehensive explorations of resources to guide public librarians in the building of responsive yet economically feasible health resource collections.

Largely missing among the current research on the issues of what constitutes responsible consumer health information, however, are surveys of existing consumer health services programs in public libraries. The study by Marshall, Sewards, and Dilworth (1989; 1991) of the health information needs in Ontario public libraries remains the lone comprehensive regional survey of public library consumer health information service. These Canadian researchers concluded that health information requests accounted for eight percent of all reference questions in Ontario public libraries and incomplete or unclear queries and inadequate collections are the main problems for public librarians in providing health information to patrons. No comparable investigation has appeared for public libraries in a region of the United States.

Research Questions

Because Canada and the U. S. differ in their approach to library service, primarily in their mode of funding and in the resultant delivery of respective services to patrons, a survey of public library consumer health information delivery in a region of the U. S. can provide an instructive comparison in determining the current role of the public library as a source of health or medical information. Accordingly, then, a study of consumer health resources in Michigan public libraries was undertaken. Michigan, with its population of 9.5 million, median income of $21,898, its population of 10.8% medically uninsured residents (Bureau of the Census, 1996), and its 380 public library systems is fairly representative of present library services in the United States. Insights into Michigan's delivery of consumer health information via the public library, therefore, can provide a useful perspective on such services elsewhere in the U. S. and, concurrently, illustrate the new roles of both public librarians and the American public library

as key resources for health care information.

The goals of the study were threefold: (1) to obtain a picture of the provision of consumer health information by Michigan public librarians; (2) to ascertain the types of health-related queries received by librarians; and (3) to explore the problems encountered by librarians in meeting health-related questions. To following questions addressed these goals:

1. What is the nature and frequency of health-related questions asked by patrons in public libraries?
2. Who uses the library for health information?
3. What is the status of consumer health information collections in main and branch public libraries?
4. What health information services are provided by public librarians?
5. What training have public librarians had to respond to health queries?
6. What problems are public librarians experiencing in response to health enquiries?
7. What do public librarians feel would help them improve their service effectiveness?

Method

Design of the Questionnaire

The questionnaire by Marshall, Sewards, and Dilworth (1989) formed the basis for the one used in this study, but some changes were made. For example, newer sources of information, such as Internet and CD-ROMs were incorporated, and American sources (e.g., Physician's desk reference) were substituted for Canadian ones (e.g., Compendium of pharmaceutical and specialties). Likert scales were used for some responses. Queries on the Marshall et al. questionnaire concerning training programs for librarians with no previous experience in health information reference service, written reference policy, referrals to or from other libraries, and the usefulness of arrangements with other health sciences libraries or health agencies were deleted. Instead, because information about the size of population served or the materials budget (books, periodicals, etc.) for a number of libraries listed in either the Directory of Michigan libraries-1995-96 or the American library directory 1994-95 was not available, one question addressing each of these two topics was included. Finally, some questions included more detail than was found in the Marshall et al study. (A copy of the current questionnaire appears in the Appendix.) The survey was pretested by six librarians in Ohio: three from a large county public library that serves over 450,000 people; and the other three from libraries that serve populations of 2,000, 10,000 and 16,000, respectively. Based on their suggestions, a few changes were made to the questionnaire in the section on electronic resources.

Survey Sample and Response Rate

The size of the population for a considerable number of libraries in Michigan was unavailable from the sources just cited. Furthermore, information was desired on how librarians who work in smaller locales and who have smaller budgets handle health or medical questions. Therefore, it was decided to survey librarians in all 659 public main and branch libraries in Michigan.

Mailing labels for the libraries were requested through, and generously provided by, personnel at the Library of Michigan. From the labels, the Directory of Michigan libraries-1995-96 and the American library directory 1994-95, a list of main and branch libraries throughout the state was compiled. A letter was sent to the head librarian of each, explaining the study and asking her/him to distribute the questionnaire to the professional librarian responsible for assisting adult library patrons with health or medical materials or for answering queries related to some aspect of health or medicine. On October 19, 1996, a package containing the letter, the questionnaire, and a stamped addressed envelope was mailed to all 659 public libraries (see Appendix for copy of letter.)

Two hundred and seventy-one completed questionnaires were returned within the requested three-week period. Because each questionnaire had been labeled with an identifying number, it was possible to send follow-up letters to the non-respondents one month after the original package had been sent; an additional 82 questionnaires were received. The total response rate was 353 (53.5%). The data were analyzed using SPSS 6.1 for Macintosh (SPSS, 1995).

Results

For ease of discussion, the results will be divided into four categories, including the respondents (professional and non-professional), the libraries, the health or medical services provided by the respondents, and the consumer health materials used in public libraries in Michigan.

Respondents (Professional and Non-professional): Experience and Training

The respondents were asked how many years of professional and/or non-professional experience they had had in library positions that included the provision of health information/reference service. The results are outlined in Table 1. The total number of responses (n = 551) exceeds the total number of returned questionnaires (n = 353) because some respondents indicated the number of years that they had worked in both capacities.

Table 1: Experience in Library Positions (n = 551)

Experience	Number of Responses	Mean Number of Years	Standard Deviation
Professional	314	12.49	8.47
Non-Professional	237	3.96	5.77

To obtain a clearer picture of the number of years of professional experience, the responses to this question were divided into four categories: least experienced (less than five years), moderately experienced (five to nine years), very experienced (10 to 14 years), and most experienced (greater than 15 years). As outlined in Table 2, more than half of the respondents have over 10 years of experience.

Table 2: Years of Professional Experience (n = 314)

Experience	Years	Number of respondents	Percentage of respondents
Least experienced	< 5 years	66	21.0
Moderately experienced	5 - 9 years	62	19.7
Very experienced	10 - 14 years	55	17.5
Most experienced	> 15 years	131	41.7

The respondents also were asked to indicate the training they had had to carry out their current responsibilities relating to the provision of health or medical information. On-the-job experience was the most frequent method of training, whereas library school courses were the least frequent training method (see Table 3).

Table 3: Training of Respondents for Providing Health Information (n = 340)

Rank	Type of training or preparation	Number of of responses	Percentage of responses
1	On-the-job training	309	90.9
2	Reading	178	52.4
3	Workshops, seminars, CE	154	45.3
4	Library school courses	88	25.9
5	Other	43	12.6
6	Health-related degree	10	2.9

The "other" category included past experience working as a health care provider or in a health care environment. A few respondents credited family members who are/were health care professionals. One respondent said, "[having] two sisters who are nurses helps me to clarify certain questions." Another wrote that having a mother and sisters who are RNs, she/he had "to learn out of self defense!" Some respondents stated that their degrees in science were helpful. Searching the Internet for health information was also credited as useful. Two respondents said that their experience working cooperatively with either public or health sciences librarians to develop consumer health collections provided valuable training/preparation for carrying out their current responsibilities relating to health information services.

Another question concerned the method(s) respondents found to be **most** helpful in preparing them to provide health information. The results are shown in Table 4. According to the 226 participants who responded to this question, on-the-job training was the most useful.

Table 4: Method(s) of Preparation for Providing Health Information (n = 306)

Rank	Preparation	Number of responses	Percentage of responses
1	On-the-job training	139	45.4
2	Workshops	63	20.6
3	Reading	34	11.1
4	LIS courses	17	5.5
5	Continuing education courses	14	4.6
5	Seminars	14	4.6
6	Health-related degree	6	2.0
7	Experience	5	1.6

Note. Some respondents provided more than one answer. LIS = Library and information science

In addition to the most helpful training methods just noted, 14 (4.6%) other methods received recognition by the respondents. Included were networking with health care professionals or medical librarians; consultation with colleagues; developing the consumer health information collections; working in a medical office; using the Internet or other online resources for health information; trial and error; and personal interest in health.

Libraries: Size, Budgets, Expenditures

The data collected on both the size of the populations and the budgets of the libraries varied so greatly that neither the mean nor the median of these two variables provided useful

information. Therefore, the data on the size of the population were grouped into quartiles: 0 to 5,000; 5,001 to 12,050; 12,051 to 30,000; and 30,001 to the highest (see Table 5).

Table 5: Population Size in Quartiles (n = 321)

Size of population	Number of libraries	Percentage
<5,000	83	25.9
5,001 to 12,050	78	24.3
12,051 to 30,000	81	25.2
>30,000	79	24.6

A Pearson product moment correlation coefficient was done to determine if there was a correlation between the size of the population and the budget. The results revealed a positive, but weak, correlation ($r(274) = .38$, $p = .000$) between these two variables. The mean budget for each quartile was then calculated. The results are outlined in Table 6. A one-way analysis of variance [ANOVA] revealed that the difference among the means of the four groups was significant, $F(3, 271) = 12.89$, $p < .000$. As expected, as the size of the population increased, so did the budget.

Table 6: Budget x Size of Population (n = 275)

Size of population	Mean budget in dollars	Standard deviation
<5,000	16,677.16	36,812.93
5,001 to 12,050	34,173.50	67,102.94
12,051 to 30,000	60,829.90	84,847.16
>30,000	225,431.13	425,497.55

The budget data were then analyzed to ascertain the per capita expenses for each quartile, that is, the amount each library can spend from its own budget on each patron. As shown in Table 7, the mean per capita amount was higher for libraries where the population size was less than 5,000. A one-way ANOVA revealed that the difference among the four mean per capita amounts was not significant. Using orthogonal contrasts, the mean per capita for quartile one (size of population <5,000) was found to be significantly greater than the combined per capitas for the other three quartiles, $t = 2.13$, $p = .03$.

Table 7: Per capita Amount x Size of Population (n = 274)

Size of population	Mean per capita amount in dollars	Standard deviation
<5,000	5.95	13.03
5,001 to 12,050	3.90	7.52
12,051 to 30,000	3.11	3.29
>30,000	3.16	7.66

The final question in the library category concerned the type of clientele. The respondents, who were asked to describe patrons in terms of percentages of age groups, indicated that adults aged 31 to 54 formed the highest percentage of library users (See Table 8).

Table 8: Description of Clientele (n = 331)

Clientele	Mean Percentages	Standard deviation
Children (1-12)	21.0	11.23
Adolescents (13-18)	14.2	8.82
Young Adults (19-30)	14.9	7.67
Adults (31-54)	26.4	11.17
Mature Adults (55+)	22.5	11.22

When examined from the perspective of patrons asking for health information, the majority was again found to be adults (M = 63.4%, SD = 21.6). Students (M = 32.5%, SD = 20.6) doing a school-related assignment also frequently requested health information. Few patrons who asked for health information were identified by the respondents as in business or government occupations (M = 1.76%, SD = 5.3). In the "other" category (M = 1.09%, SD = 5.2) were patrons seeking information for someone else, or for their own interest. A few respondents included health care providers or other libraries in this category.

Health or Medical Services Offered by Respondents: Functions, Frequency, Query Descriptions

The respondents were asked to mark the functions they performed on a regular basis that related to health information services. Reference service to patrons in the library garnered the most responses, followed by telephone reference service. The other two functions most often mentioned were selection or acquisition of health materials and interlibrary loan. Noteworthy is that e-mail reference service for health information is now in some Michigan public libraries. The functions are listed in descending order of frequency in Table 9.

Table 9: Functions Related to Health Information Services (n = 347)

Regularly performed functions related to health information services	Total number responses	Percentage of of responses
Reference in person	328	94.5
Reference by telephone	295	85.0
Acquisition of health material	294	84.7
Interlibrary loan	293	84.4
Maintenance of health materials	267	76.9
Maintenance of vertical file	179	51.6
CD-ROM searching	132	38.0
Supervision of staff who work with health materials	127	36.6
Online database searching	125	36.0
Public education related to health topics	46	13.3
Reference by e-mail	27	7.8
Other	21	6.1

The "other" category included referrals to health care professionals, health sciences librarians, and relevant health agencies. Internet searching, book displays, collection development, and provision of pamphlets were also mentioned by the respondents as functions that they regularly performed.

Three questions were designed to discern the frequency of health information requested by patrons. The first question sought information on how often, in the respondent's experience, patrons asked health-related questions. The total number of responses was 350. The majority of respondents (n = 168 or 48%) felt that patrons asked health-related questions "often," while a significant number of others (n = 112 or 32%) indicated that they handled these questions only "occasionally." The remainder of the responses were much lower: Forty-two respondents (12%) indicated "very often," 27 (7.7%) indicated "rarely," and one person (0.3%) stated "never."

The respondents were also asked to estimate changes in the proportion of requests for health-related information over the last three years. Of the 337 respondents who answered, slightly more than half (n = 180 or 53.4%) indicated that the number of requests had stayed about the same; however, only slightly less than half (n = 155 or 46%) estimated that the number of requests had increased. Only two respondents (n = 2 or 0.6%) noted that the requests had decreased over the last three years.

Only 39 respondents appended comments to their estimates. A few could not gauge a change because they had not been in their present position three years. Others, however, definitely saw an increase in the number of health-related questions. One explanation offered con-

cerned the general increase in public awareness of consumer health issues: People are more cognizant "that outside opinions and help are available for the asking" and they "are becoming more open about asking health-related questions." In addition, the public is becoming more aware of the print or electronic resources housed in libraries. Another reason involved the age of the patrons. Several respondents mentioned that they served aging populations who "very often have questions about a condition, medication or treatment." Students assignments have also increased, which placed more demand at certain times on health-related information.

Of particular interest were the comments about the nature of information requested. Mentioned topics included alternative medicine, diagnosis and treatment of diseases, self-help materials, popular medicine, mental health, learning disabilities, specific cancers, Epstein-Barr, chronic fatigue syndrome, and pregnancy and childbirth.

Because interlibrary loan (ILL) can prove to be a valuable service for libraries with small health collections, one question addressed the frequency with which library patrons requested health materials through ILL. A total of 348 respondents answered this question. In descending order of frequency, patrons requested ILLs "occasionally" (n = 140 or 40.2%), "often" (n = 115 or 33%), "rarely" (n = 62 or 17.8%), "very often" (n = 24 or 6.9%), or "never" (n = 7 or 2%).

Knowing the frequency with which health questions are asked can aid librarians in the development of a consumer health collection. Thus, the respondents were asked to indicate on a 5-point Likert scale (1=very often, 5= never) the frequency with which they handled questions on 10 health-related topics. The results, shown in Table 10, revealed that questions about specific diseases and drugs occurred often, while information about health policy was never sought.

Table 10: Frequency of Queries Concerning 10 Health-Related Topics

Ten health-related topics	Very often	Often	Occasionally	Rarely	Never
Information about specific diseases (n = 350)	72 (20.6%)	159 (45.4%)	98 (28.0%)	18 (5.1%)	3 (0.9%)
Information about medical treatment (n = 348)	29 (8.3%)	97 (27.9%)	142 (40.8%)	65 (18.7%)	15 (4.3%)
Information about self-care (n = 344)	29 (8.4%)	104 (30.2%)	161 (46.8%)	43 (12.5%)	7 (2.0%)
Information about alternative medicine (n = 344)	20 (5.8%)	76 (22.1%)	155 (45.1%)	85 (24.7%)	8 (2.3%)
Information about drugs (n = 348)	79 (22.7%)	145 (41.7%)	93 (26.7%)	23 (6.6%)	8 (2.3%)
Information about self-help groups (n = 345)	3 (0.9%)	30 (8.7%)	114 (33.0%)	170 (49.3%)	28 (8.1%)
Information about disease prevention or health promotion (n = 350)	27 (7.7%)	113 (32.3%)	129 (36.9%)	75 (21.4%)	6 (1.7%)
Information about health care system (n = 350)	6 (1.7%)	29 (8.3%)	132 (37.7%)	145 (41.4%)	38 (10.8%)
Information about health policy (n = 351)	0	1 (0.3%)	33 (9.4%)	154 (43.9%)	163 (46.4%)
Information about environmental health issues (n = 350)	6 (1.7%)	45 (12.9%)	134 (38.3%)	136 (38.8%)	29 (8.3%)

A few respondents (n = 24) commented on the increase in interest in some topics. Among them were alternative medicine, macrobiotic diets and cancer, specific diseases and treatments, disease prevention and health promotion, life style change and diet, and self-care. The only questions on environmental health issues were asked by students doing school-related assignments, which may explain the high "occasionally" or "rarely" response rate.

Other comments focused on the relationship or the need for better communication between physicians and their patients: A poor relationship can prompt the patient to seek health or medical information in the library. Some examples of comments included:

> It would be great if the professional health care providers would spend a few minutes with their patients to answer their questions. Many of the questions that are asked of the library's reference staff really should have been dealt with in the doctor's office! The best medical library in existence cannot replace the physician-patient relationship that should exist when a person consults his/her family doctor.

> Doctors do a terrible job of giving their patients basic information on **their own condition**. We, at the library, can only provide **general** information on their disease or

syndrome [respondent's emphasis].

We find the patrons come to us for information because they are intimidated by their physician or he does not provide them with proper information. Librarians need to have a working knowledge of medicine and diseases to help patrons do reference searches. The Internet in small public libraries can be an excellent supplementary resource. Our local hospital also provides a medical hotline for patrons.

We have a few patrons that ask the bulk of the questions—almost invariably they are on topics so specific that we can not get any information for them (no hits on Medline, CINAHL, or InfoTrac). These individuals apparently have alienated themselves from the medical community and refuse to use the medical library in our area.

The respondents were asked whether or not questions on each of the ten topics listed in Table 10 had increased, decreased, or stayed the same over the last three years. The findings revealed that information on specific diseases and alternative medicine had risen over the three years (see Table 11). Overall, however, the number of questions on the other eight topics had remained constant over the same period.

Table 11: Estimated Proportion of Health-Related Questions Asked Over the Last 3 Years

Ten health-related topics	Increased	Stayed the same	Decreased
Information about specific diseases (n = 338)	187 (55.3%)	150 (44.4%)	1 (0.3%)
Information about medical treatment (n = 338)	150 (44.4%)	185 (54.7%)	3 (0.9%)
Information about self-care (n = 337)	131 (38.9%)	202 (59.9%)	4 (1.2%)
Information about alternative medicine (n = 336)	178 (53%)	148 (44%)	10 (3.0%)
Information about drugs (n = 336)	132 (39.3%)	201 (59.8%)	3 (0.9%)
Information about self-help groups (n = 338)	38 (11.2%)	282 (83.4%)	18 (5.3%)
Information about disease prevention or health promotion (n = 339)	131 (38.6%)	198 (58.4%)	10 (2.9%)
Information about health care systems (n = 334)	48 (14.4%)	267 (79.9%)	19 (5.7%)
Information about health policy (n = 332)	14 (4.2%)	287 (86.4%)	31 (9.3%)
Information about environmental health issues (n = 336)	100 (29.8%)	219 (65.2%)	17 (5.1%)

To obtain some idea of the types of problems respondents in Michigan encountered when asked health-related questions, they were asked (1) to rate on a 5-point Likert scale (1=very often, 5=never) the frequency with which 10 potentially problematic scenarios occurred; and (2) to add comments that would help the authors to assess the extent of each problem. It is intriguing that the respondents indicated that none of the 10 scenarios occurred very often. In fact, as shown in Table 12, most rated the problems as occurring only occasionally or rarely.

Table 12: Types of Problems Concerning Medical or Health Questions

Problem	Very often	Often	Occasionally	Rarely	Never
L had difficulty understanding what patron wants to know (n = 346)	21 (6.1%)	97 (28.0%)	164 (47.4%)	61 (17.6%)	3 (0.9%)
L & P have insufficient health/ medical knowledge to determine what sources might be useful (n = 345)	7 (2.0%)	31 (9.0%)	146 (42.3%)	150 (43.5%)	11 (3.2%)
L had inadequate training to use in-house resources (n = 344)	3 (0.9%)	12 (3.5%)	82 (23.8%)	201 (58.4%)	46 (13.4%)
L & P found language in resources too difficult to read (n = 345)	4 (1.2%)	26 (7.5%)	162 (47.0%)	131 (38.0%)	22 (6.4%)
Materials are missing from collection (n = 346)	4 (1.2%)	20 (5.8%)	129 (37.3%)	161 (46.5%)	32 (9.2%)
Most useful materials not owned by library (n = 343)	44 (12.8%)	81 (23.6%)	153 (44.6%)	58 (16.9%)	7 (2.0%)
Useful sources not published yet (n = 301)	3 (1.0%)	19 (6.3%)	93 (30.9%)	151 (50.2%)	35 (11.6%)
L did not want to risk giving the wrong answer, providing med. advice, or interpreting (n = 331)	10 (3.0%)	35 (10.6%)	118 (35.6%)	137 (41.4%)	31 (9.4%)
L is unsure of appropriate procedure for referring patrons to health professional or agency (n = 329)	4 (1.2%)	33 (10.0%)	105 (31.9%)	138 (41.9%)	49 (14.9%)
L is unsure how to evaluate conflicting sources (n = 322)	6 (1.9%)	34 (10.6%)	125 (38.8%)	127 (39.4%)	30 (9.3%)

Note. To conserve space, the problems are not fully described here. See the questionnaire in the Appendix for the full scenario. L = Librarian; P = Patron.

Only 92 (26.4%) respondents commented, but their remarks provided insight into methods they employed to handle the situations listed in Table 12. For example, in response to the problem concerning the risk of giving the wrong information, 54 respondents stated that they do not provide advice, give the answer, interpret patron's question, or evaluate material or health problems. In some cases, their statements were qualified with the suggestion that the patron consult her/his doctor. Examples of comments included:

> I never give medical advice. I always share the information that I have found that I feel might be useful. I always advise patrons to seek the help of a medical professional if the problem persists.
>
> We specifically tell the patron we are unable to give medical advice, and direct them to consult a health professional for advice/evaluation.

Four respondents felt uncomfortable referring patrons to health professionals or health agencies, but 10 others mentioned that they refer patrons to the main library or to health sciences libraries. Some examples were:

> Basically the staff would not feel inclined to make any type of referral to a health professional or agency in the capacity in which we serve our library patrons.
>
> We have so few sources—I will refer [patrons] to the main branch.
>
> Our local hospital medical library offers its services to area residents. We inform our patrons of this extraordinary gesture of good will.

Financial or budgetary constraints were discussed by only 10 respondents. Two of them specifically mentioned budgetary problems, and eight talked about having either too few or outdated sources. Representative responses were:

> My greatest concern is the age of the information. With a limited budget, it is difficult to keep the newest information on hand.
>
> Our greatest challenge is budgetary. We could provide better services if we could afford more materials and staff.
>
> Biggest problem we have is access to the needed information. Some inexpensive online help would help.

The problem of the unavailability of needed material was noted by two respondents. One stated that "Public libraries are not meeting the needs of our patrons because in many

areas, extensive, useful information is unavailable."

The readability of health or medical material received only slight recognition. Several respondents pointed out, however, that information obtained from Internet, the Merck manual, Dorland's illustrated medical dictionary and the New England Journal of Medicine was too technical. One respondent summarized the comments of the others when she/he said, "Certain medical topics cannot be found at an easy to read adult level. Often topics are published for children (too easy) or professionals (too hard and way too expensive). Nothing in between."

Another problem identified, although not a major concern to many respondents, involved the difficulty in understanding what patrons want to know. As she/he said, it is difficult to help patrons who "don't have the correct spelling of a disorder and cannot say even which broader category it may fall under (which system is affected)."

Respondents were asked what they thought would help them to improve their service effectiveness with health or medical questions. Comments were obtained from 180 (51%) respondents, of whom 89 (49%) said that their effectiveness would improve if they had better collections. They mentioned a wide variety of materials that would help them to answer questions more effectively. Included were lists of recommended basic materials and free government publications. Pamphlets were also seen as important. Twenty-one respondents demanded more lay reference sources, written at levels that lay people can understand. Books that provide current information and that cover specific diseases were also suggested. One respondent mentioned the need for more access to medical journals. Another addressed the accuracy of the material available and indicated that there is a need for information on the "professionals — degrees, backgrounds—who [are] putting all this information out." A few other quotations illustrate respondents' concerns about their collections:

> Additional current materials; materials which answer the questions—how, why, what causes this to happen.
>
> More books for the adult lay reader, brief [and] highly illustrated. The series published by Chelsea House, The encyclopedia of health, is an excellent example.
>
> A layman's equivalent to JAMA [Journal of the American Medical Association]
>
> Weekly list of free government publications for the vertical file; mailing lists of hospitals, etc., that [have] pamphlets on health issues.
>
> A good bibliography on medical works for the lay person and nonprofessional, especially materials that are affordable.
>
> Bibliography on current resources that are **very complete** [respondent's emphasis] and

readable by the public. General information is available, more specific in terms of symptoms and treatment is harder to locate. (For instance, negative effects of procedures is simply not available to public.)

The second largest category of comments involved the training needed to handle health or medical enquiries. Fifty-eight respondents (32%) mentioned the need for continuing education classes, workshops, conferences, library school courses, or experience in a medical library as ways of getting this training. Several mentioned the need for knowing medical vocabulary and for "collection development assistance." Some examples of respondents' comments were:

> Certainly more knowledge about areas of study in medicine and a better idea of vocabulary.
> Crash courses in current "hot" medical/health sources.
>
> Workshops/seminars on selection/updating/weeding materials; reference interview and tip[s] on "matching" patron and material for the "introduction" to the subject area; legal and ethical guidelines; role playing.
>
> Workshops and seminars on health reference for [the] small public library.
>
> Workshops on medical books (for non-professional staff).

Training on and access to Internet were also suggested. One person remarked on the reliability of information on Internet and asked "how to know if it's reliable." Another stated that "Internet access has greatly increased our ability to answer medical questions at the library rather than waiting for an ILL request." Five respondents wanted to have access to Internet, and thirteen others specified their desire for Internet training.

Some respondents also commented on the need for training in and access to CD-ROM and other electronic databases. Several mentioned the need for specific products such as InfoTrac. Others just stated CD-ROMs. For example, one respondent wrote "more cd-rom sources like "health index" but geared towards non-professionals. Health index is way too technical [because it] indexes scientific journals beyond comprehension of most public librarians and patrons." Another noted the cost of CD-ROM products and stated that what is needed is "less expensive CD-ROM health indexes with text that all libraries can afford." Fewer respondents mentioned the need for access to Medline, Grateful Med, or Nursing and Allied Health Literature.

Larger budgets were mentioned by 31 (17.2%) respondents. More money is needed in order to purchase more materials or to hire reference librarians. One respondent stated the need for "Staff and budget to maintain current collection as up-to-date as possible, especially in high

interest areas, such as cancer treatment." Another wrote that they "lack the budget to buy the medical books that our patrons could benefit from."

Eleven (6.1%) respondents commented on the need to know about, or form relationships with, health sciences librarians or other health agencies. One respondent noted that "we seem to satisfy most patrons by either finding the information requested or giving them a name or number to go to for their answer." Another expressed the need for "information on county and local information and familiarity with hospital library offerings." Most of the other remarks, however, seemed to indicate a respondent's sense of "aloneness" when dealing with health or medical questions, and the need for "cooperative program[s] between public and medical librar[ies]."

Finally, four respondents referred to the relationship between physicians and patients. They stated that better communication between the doctor and her/his patient would improve their [the respondents'] effectiveness in handling health or medical questions. Examples included:

> A clearer explanation by the attending physician would help patients present their reference questions more effectively.
>
> Talking with someone who's knowledgeable about medicine, such as a doctor. Sometimes I tell the patron that while the literature we are looking at describes what will happen to a person with his diagnosis, that doesn't necessarily meant that it **will** [respondent's emphasis] happen to him. He needs to talk with his doctor about his fears.
>
> More doctors making sure patients understand their condition/disease.

At the end of the questionnaire, additional comments provided by 36 (10.2%) respondents echoed earlier remarks about the need for more money, staff, and print or electronic sources. There were also a few more comments on the need to liaise with health sciences librarians. One key suggestion for improving the provision of consumer health information was:

> I think regional medical libraries—open to the public, with the public as their main clientele, staffed by medical librarians would be excellent resources. A general reference librarian simply does not have the background to provide comprehensive help in the field of health (nor do we have time to pick up a medical degree).

Consumer Health Materials Used in Michigan Public Libraries

The respondents were asked to rate, in relation to their community, the total collection of consumer health materials in their library. The results revealed that most of the respondents (n=281 or 81.7%) felt that the collection was inadequate (see Table 13).

Table 13: Adequacy of Consumer Health Collection (n = 341)

Adequacy of collection	Frequency	Percentage
Least adequate	35	10.2
Less than adequate	109	31.7
Adequate	137	39.8
More than adequate	55	16.0
Most adequate	8	2.3

Seventy-two respondents provided opinions about their collections. Nineteen (26.4%) credited small budgets ("We are poor"); small libraries ("We are a small library with limited funding which makes it impossible to own more"), or expensive resources ("Because of cost of materials, it is difficult to add to the collection") for their rating. Only one person indicated theft of health material as a reason for an inadequate collection: "We have a high theft rate of medical-type materials. We can not keep them in the library."

Only four respondents commented on the use of Internet to supplement their collection. As one respondent stated, "Internet access has vastly improved patrons' access to up-to-date information." Others (n = 19 or 26.4%) use interlibrary loans or referrals to other libraries to meet a patron's information needs.

The currency of materials was also addressed in comments by 20 (27.8%) respondents, some of whom stated that the collection needed updating, and others were in the process of doing just that. A few felt that their collections needed weeding. The final group of comments in this category dealt with the problems of outdated material. One respondent voiced concern about the difficulty of finding current materials to replace outdated ones.

To ascertain the range of health-related material found in Michigan public libraries, seven categories of sources were listed on the questionnaire. The respondents were asked not only to indicate which items they had in their collections, but also to mention additional sources they used.

With the exception of Physician's desk reference, Gray's anatomy, and Merck manual of diagnosis and therapy, few medical texts were found in collections. Instead, more librarians chose lay-oriented books, such as the American Medical Association family medical guide or the Mayo Clinic family health book. Less than half the respondents reported having the CD-ROM products, InfoTrac, UMI or EBSCO; however, over 85% had access to Internet. The results obtained from the seven categories are listed in Tables 14-20. The additional sources provided by the respondents were compiled and the list is in the Appendix.

Table 14: Reference Books (n = 348)

Reference books	Number of libraries that have this source	Percentage of libraries that have this source
Physician's desk reference	331	95.1
Merck manual of diagnosis & therapy	251	72.1
Handbook of non-prescription drugs	218	62.6
Dorland's illustrated medical dictionary	141	40.5
Dictionary of medical syndromes	73	21.0
Physician GENRX	37	10.6
USP-DI: Advice for patient	16	4.6
International classification of diseases (ICD-9)	11	3.2

Table 15: Basic Medical Texts (n = 297)

Basic medical texts	Number of libraries that have this source	Percentage of libraries that have this source
Gray's anatomy	278	93.6
Diagnostic and statistical manual of mental disorders (DSM-IV)	60	20.2
Harrison's principles of internal medicine	43	14.5
Cecil textbook of medicine	30	10.1
Current pediatric diagnosis & treatment	21	7.1
Conn's current therapy	15	5.1
Clinical toxicology of commercial products: Acute poisoning	4	1.3

Table 16: Lay Texts (n = 342)

Lay texts	Number of libraries that have this source	Percentage of libraries that have this source
AMA family medical guide	269	78.7
Mayo Clinic family health book	250	73.1
Women's complete health book	135	39.5
Alternative medicine	124	36.3
People's book of medical tests	99	28.9
People's guide to deadly drug interactions	91	26.6

Table 17: Newsletters and Magazines (n = 162)

Newsletters & magazines	Number of libraries that have this source	Percentage of libraries that have this source
FDA consumer	74	45.7
Mayo Clinic health letter	67	41.4
New England Journal of Medicine	49	30.2
Harvard Medical School health letter	44	27.2
Journal of the American Medical Association	43	26.5

Table 18: Government Publications (n = 260)

Government publications	Number of libraries that have this source	Percentage of libraries that have this source
Statistical abstract of the US	254	97.7
Vital statistics	45	17.3
World Health Organization statistics	13	5.0

Table 19: Periodical Indexes (printed) (n = 39)

Periodical indexes (printed)	Number of libraries that have this source	Percentage of libraries that have this source
Index medicus	11	28.2
Cumulative index to nursing & allied health literature	5	12.8

Table 20: Electronic Resources (n = 263)

Periodical indexes (printed)	Number of libraries that have this source	Percentage of libraries that have this source
Internet	224	85.2
InfoTrac	97	36.9
EBSCO	45	17.1
UMI	39	14.8
Medline or Grateful Med	21	8.0
Nursing & allied health literature	4	1.5
Consumer drug information (full text)	3	1.1
Current contents	1	0.4

Discussion

The majority of respondents had spent more than ten years in library positions in which they provided health information. They were, therefore, well experienced in handling health-related questions. Similar to the findings of Marshall et al. (1989; 1991), the predominant method of preparation for fielding health information queries, according to the respondents, was on-the-job training. Reading, workshops, seminars, and continuing education courses were also of value, but to a lesser degree. The finding that library and information sciences courses received little recognition was not particularly surprising, and may be a result of (1) the length of time the respondents have been in practice and away from an academic environment; or (2) the fact that some of the respondents do not hold Masters' degrees in library and information science.

The demographic information collected on Michigan public libraries revealed that libraries with populations of less than 5,000 had more money to spend on a per capita basis than did libraries with larger populations. The results also revealed that adults and mature adults comprised almost half (49%) of the clientele using public libraries and that people in these age groups were the ones who most frequently asked for health information. The comments of respondents suggested two possible reasons for this finding: (1) People are becoming more health conscious and are thus seeking information to become more informed; and (2) people are living longer and, therefore, more seniors (i.e., mature adults over the age of 55 years) are seeking health information. Another reason may stem from the health care environment in Michigan, which is increasingly one of managed care. Lastly, the continuous coverage of health and medical items by the media may stimulate a greater desire in the adult groups for more

information. It is also plausible that a causal relationship exists between these factors and the increase, as noted by the respondents, in the number of student assignments that involve the need for health or medical facts and figures.

Both the librarians in the Marshall et al. (1989) study and the respondents in the current study performed a variety of health-related functions: Included were reference services, collection development, interlibrary loan, and selection, acquisition and maintenance of health materials. In this study, the most frequent duty was reference service to patrons who were physically in the library. A slightly lower number of respondents indicated that they provided telephone reference service for health information. One reason for this difference may stem from concerns about liability and may thus reflect a library policy that respondents are not to provide health or medical information over the telephone. Approximately one-third of the respondents indicated that they regularly do CD-ROM or online searching for their patrons. This finding was not unexpected. With the introduction of consumer-oriented CD-ROM products into public libraries, the need for mediated searches has decreased because many patrons perform their own searches for health information.

Three questions (nos. 7a, 7b, and 8) were designed to ascertain the frequency of health-related queries in public libraries. The first question, concerning the frequency with which patrons asked health questions, revealed that they asked this type of question "occasionally to often." Given the heightened awareness in American society of health and medical issues, the results were surprising. Because the responses for "very often, rarely and never" were so low, the data were reanalyzed by collapsing the categories of responses from five to two; that is, "often" and "very often" were combined to form one category, and "never," "rarely," and "occasionally" were combined to form the second category. Examining the data from this perspective, a somewhat different the picture emerged. More than half the respondents ($\underline{n}$ = 210 or 59.6%) indicated that patrons asked health-related questions often to very often, while only 140 (39.7%) estimated that patrons asked questions of this nature occasionally to never. Health-related questions, therefore, were a frequent occurrence in Michigan public libraries.

The second question in this category concerned the frequency of patrons' requests for ILLs (no. 7b). The results revealed that patrons asked for this service occasionally to often. Once again, because the figures obtained for the categories "very often, rarely and never" were quite low, results were reanalyzed by collapsing the categories in the same manner as just described. Sixty percent of the 348 respondents stated that patrons occasionally to never requested ILLs, while 40% said that patrons often to very often requested health information through ILL. It is concluded, then, that ILLs are not frequently requested by patrons. It is plausible that many patrons either do not know about this service or, more probably, do not want to wait for the material to arrive from another library.

Unlike the results reported by Marshall et al. (1989; 1991), the proportion of health-related queries (no. 8) in Michigan public libraries has remained the same over the past three years. This result was unanticipated because a number of the respondents commented on factors that brought more patrons seeking health information into the library, such as more or better print and electronic resources and more school assignments. A plausible explanation for the finding may be that the respondents are accustomed to handling a considerable number of health-related queries and, therefore, have not noticed a dramatic change in the proportion of health-related questions to other types of queries over the past three years.

The two questions that focused on the nature of health-related requests yielded intriguing results. It appears that patrons were mostly interested in information about specific diseases, drugs, and to a lesser degree, disease prevention/health promotion. More than half the respondents estimated that information about one of these topics, namely specific diseases, had increased over the past three years. Furthermore, the respondents also noted an increase in requests for information about alternative medicine. These results may depict a new trend as the consumer becomes more knowledgeable about her/his disease and more involved in her/his health care. These results may also relate to the consumer's dissatisfaction with current health care practices, traditional medicine, or physicians who are not good communicators. As Dacher (1997) stated, there is "a growing chorus of concern that conventional medicine has finally reached its limits and new approaches are urgently needed" (p. 12). The increased interest in information about specific diseases and alternative medicine is well worth watching, because it has major implications for reference services, referrals and collection development.

Given the focus on information about specific diseases, it was noteworthy that patrons rarely asked for information about self-help groups. These groups can provide a wealth of support and information not only to the person with the disease, but also to family members. Several suggestions for this finding include (1) people lack knowledge about the existence of a self-help group for a particular disease; (2) people are unaware that librarians can supply this information; (3) people find relevant information in locations other than libraries, such as supermarkets, pharmacies, hospitals or physicians' offices; or (4) people obtain the information they need from pamphlets produced by a particular disease-related association or from other material they have read. Some self-help books provide the addresses of the national, as well as the local, organizations.

One of the major goals of both the Marshall et al. (1991) study and the current one was "to explore the problems librarians experienced in answering health questions" (p. 40). Marshall et al. found that the two most frequently cited problems Ontario librarians experienced involved (1) the inability of the patron to present her/his question clearly enough for the librarian to understand what the patron wanted to know; and (2) the missing or unavailable source. In

Michigan, it appeared from the results of this question (no. 12), that such problems occurred only occasionally or rarely. This finding suggests that, given the length of time the respondents had been working with patrons who wanted health information, many of them had the necessary knowledge or skills to handle the seven personal problems identified in the question. Further support for this supposition can be found in the responses to the subsequent question in which the respondents were asked what they thought would help them to improve their own service effectiveness. Only 32% felt the need for more training in handling consumer health enquiries. Most of the respondents were comfortable dealing with health-related questions themselves or with referring patrons to larger public libraries or health sciences libraries.

The respondents also indicated, in response to this question, that they rarely or occasionally encountered problems with materials being lost, not owned, or not yet published. This finding was unexpected because, in two other relevant questions, only 18.3% rated their consumer health collection as more than adequate, while 49% stated that their effectiveness in answering health-related questions would improve if they had better collections.

Some respondents to question no. 12 indicated that they are not heeding Paris' (1994) admonition to "abandon the comfort zone" but, instead, are following Beattie's (1988) model of not giving advice to patrons who request health information. Their decision not to provide advice is not unrealistic. Without a health background, most librarians do not possess enough knowledge to interpret a patron's questions or to advise her/him about health matters. They are, however, knowledgeable about sources of information and have a responsibility to introduce patrons to the highest quality sources available.

The addition of Internet to the health collection introduces a new "problem," that is, the reliability of information available through this medium, an issue which is just beginning to receive the attention of researchers (Impicciatore, Pandolfini, Casella, & Bonati, 1997). More research needs to be done on the accuracy, value, currency, reliability and readability of health information on the Internet before librarians can use this source of information with any degree of confidence.

Over 85% of the respondents had access to Internet; few (7.8%), however, used e-mail to communicate with, and provide reference service to, their clients. Several reasons can be posited for this finding. First, the e-mail reference interview is not as straightforward as one may think. According to Abels (1996), two problems that occur include misinterpreting the request because the patron does not provide enough information, and playing "e-mail tag," as the librarian tries to clarify a request. The lack of staff to handle e-mail requests, in addition to the in-person and telephone ones, may preclude the offering of this additional service. Second, many people in Michigan may not have access to Internet in their homes. Finally, the issue of liability may loom heavily over many of the respondents who feel that their health collection is

either inadequate or out-of-date or both.

Similar to the findings of Marshall et al. (1989), the majority of respondents rated their consumer health collections as inadequate. For some, however, Internet, health-related CD-ROM products, and the Michigan Electronic Library have proven to be helpful as reference sources. Given the technicality of medical language, as well as the high readability of medical material (Baker & Wilson, 1996), it was not surprising that less than one quarter of the respondents had medical texts in their collections. Slightly over one-fourth of the respondents, however, subscribe to Journal of the American Medical Association or The New England Journal of Medicine. These journals, measured by the Flesch-Kincaid readability formula, require 16th and 19th education-grade reading levels, respectively, and therefore, may exceed the reading abilities of a significant portion of the general public (Baker & Wilson, 1996).

Requests for selection aids from which titles could be chosen were also noted in the comments by a number of respondents. One found the "special collection development articles in Library Journal very useful in selection." No one mentioned using either the Rees' (1994) book, The consumer health information source book or Brandon and Hill's (1995, 1996a, 1996b) "Selected list of books and journals..." series. Although some overlapping of titles occurs between the two sources, the former is devoted more to the consumer, whereas the latter is geared more to health care professionals. To determine the utility of these two guides for the selection of material for public libraries, all the sources listed on the questionnaire and all the unique titles provided by the respondents were checked against both the Rees book and the three Brandon and Hill lists, including the one for small medical libraries, for nursing, and for allied health sciences. The results are included in the Appendix.

Conclusion

The results of this study are not dissimilar to the findings reported by Marshall et al. (1989; 1991). In Michigan and Ontario, people are seeking health or medical information through their public library. As consumers of health information, they expect to find current information. Unfortunately, many collections have been deemed inadequate by both the Michigan and Ontario respondents. The managed health care system in Michigan demands a more informed consumer, which places a burden on public librarians to purchase more health material and to maintain current consumer health collections. Thus, budgets need reexamination to allot more funds for this type of material. In the face of shrinking dollars for non-fiction material, each library cooperative in Michigan needs to develop a more comprehensive collection of health and medical materials, thereby lessening the duplication of sources in each library and increasing the overall number of current and subject-specific sources. Furthermore, public

librarians in each cooperative should review and critically appraise sources, and develop selection aids that could be shared with colleagues in other cooperatives. This practice not only would be cost effective for many libraries, but also would ensure that all public libraries in Michigan, regardless of size, would have up-to-date collections of high quality health and medical sources.

The results of both studies also indicated the need for more public librarians to forge relationships with health sciences librarians. A few respondents in Michigan, who had not formed liaisons, expressed the need for a cooperative relationship with a health sciences librarian. Other respondents, who had such communication, expressed their gratitude for having a colleague in a health sciences library to whom they felt comfortable referring their patrons. These relationships could be formed on county, city, or state levels. For example, in Michigan, the Michigan Health Sciences Libraries Association [MHSLA] has a consumer health information group. The members of this group could act as resources for public librarians. Research needs to be done on how MHSLA and the Michigan Library Association could collaborate to assist health sciences and public librarians in this endeavor.

Because public librarians in Michigan are receiving more questions about drugs, they should liaise with local pharmacists who can provide more individualized information about medications than is available from the Physician's desk reference or other generic sources. Paris (1994) demeans the role of pharmacists by stating that "referring a library user to a pharmacist may only amount to buck-passing" and further that "only infrequently can pharmacists provide significantly more information than that at the disposal of a librarian" (p. 775). With the advent of computers, pharmacists can track a consumer's medicine and can alert both the consumer and the physician about drug interactions. Pharmacists can also persuade, educate and inform physicians about the use of a generic versus trade name drugs, a measure that saves money for the consumer.

The results of the current study suggest the need for more continuing education courses for public librarians who handle health-related queries. Examples of courses requested by many respondents included training on how to access health-related information on Internet, collection development and the reference interview process. Courses on assessing the readability of consumer health material are also essential. Public librarians need to work more closely with CD-ROM developers, as well as producers of print material, to ensure that the readability level of health and medical material meets the needs of their patrons. Public librarians should also be involved in research projects that assess health or medical information obtained from the Internet.

As more patrons seek health and medical information in public libraries, there may also be a need to hire a consumer health information librarian who could act as a major resource for

librarians within each cooperative. This librarian could provide guidance to and train librarians who handle consumer health questions. She/he could work with local health organizations to set up and provide, in the library, classes on health-related topics for the community.

Public librarians have been providing patrons with health and medical information for many years. The demand for this service will increase in the next century. The results of this study point to the need for some new innovations which will enhance the role of public librarians in the provision of health information to consumers.

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APPENDIX

Letter to Library Director

date

Name of Library Director
name of library
address
City, State

Dear

In the document *Healthy People 2000*, the U.S. Department of Health and Human Services is promoting educational- and community-based programs to help people change behaviors that contribute to today's major health threats. Public libraries, with their consumer health collections, appear to be in an ideal position to support such programs. To date, no systematic survey of the provision of consumer health information by public librarians in Michigan has been undertaken. The purpose of the study is to ascertain the types of health or medical requests received and the problems encountered by librarians in meeting them.

We would greatly appreciate your participation. If you are willing to participate in the study, please have the enclosed questionnaire completed by the professional librarian who is responsible for information or reference service that includes assisting adult library patrons with health or medical materials or answering enquiries related to some aspect of health or medicine. The questionnaire will take approximately 20 minutes to complete. A stamped self-addressed envelope has been included so that the librarian can mail the questionnaire back to us directly by **November 8, 1996**.

The participation of the library and librarian are completely voluntary. Neither the library, nor the librarian, will be identified in any way in reporting the results of the study. The numeric code, located in the upper left-hand corner of the questionnaire, will be used to identify people to whom follow-up notices will be sent and to create a list of people who request a copy of the final report. Both the original mailing list and the final report mailing list will be kept in L. Baker's office and will be destroyed at the end of the project. No risks are involved for either the library or the librarian. The benefits of this study include (1) librarians will know how their colleagues in libraries of similar size handle consumer health information requests; and (2) they will learn what resources are most commonly used to answer these queries.

If you have any questions concerning your participation in this study now or in the future, Dr. Lynda Baker can be contacted at (313) 577-6198. If you have any questions regarding your rights as a research subject, Dr. P.A. Lichtenberg, Chairperson of the Behavioral Investigation Committee, can be contacted at (313) 577-5174.

Thank you for your cooperation. If you would like a copy of the final report, please circle "yes" at the end of the questionnaire.

Yours truly,

Lynda M. Baker, Ph.D.
Principal Investigator

Lothar Spang, MLS
Co-Investigator

Christine Gogolowski
Student, Library & Information Science Program

Melissa Rymsza Vizzaccaro
Student, Library & Information Science Program

CONSUMER HEALTH INFORMATION QUESTIONNAIRE

1. To the best of your knowledge, which of the following types of health materials does your library own? Any additional comments about the sources are welcome. (It is not necessary to consult the catalogue. Please check the items that you believe to be in the collection.)

A. Reference Books

____ Physician's Desk Reference (PDR)
____ Dorland's Illustrated Medical Dictionary
____ The Merck Manual of Diagnosis and Therapy
____ Physician GENRX
____ Handbook of Non-Prescription Drugs
____ USP-DI: Advice for the Patient
____ Dictionary of Medical Syndromes
____ International Classification of Diseases (ICD-9)

If there are other health reference books that you use to assist patrons in finding health information, please list them below:

B. Basic Medical Textbooks

____ Harrison's Principles of Internal Medicine
____ Cecil Textbook of Medicine
____ Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)
____ Conn's Current Therapy
____ Current Pediatric Diagnosis & Treatment
____ Clinical Toxicology of Commercial Products: Acute Poisoning
____ Gray's Anatomy

If there are other basic medical textbooks that you use to assist patrons in finding health information, please list them below:

C. Lay Texts

____ American Medical Association Family Medical Guide
____ Mayo Clinic Family Health Book
____ Alternative Medicine
____ Women's Complete Health Book
____ People's Book of Medical Tests
____ People's Guide to Deadly Drug Interactions

If there are other lay health books that you use to assist patrons in finding health information, please list them below:

D. Newsletters and Magazines

____ Harvard Medical School Health Letter
____ Mayo Clinic Health Letter
____ FDA Consumer (U.S. Food and Drug Administration)
____ Journal of the American Medical Association
____ New England Journal of Medicine

If there are other periodicals that you use to assist patrons in finding health information, please list them below:

E. Government Publications

____ World Health Organization Statistics (Annual)
____ Vital Statistics
____ Statistical Abstracts of the United States

If there are other government publications that you use to assist patrons in finding health information, please list them below:

F. Periodical Indexes (Printed)

____ Index Medicus
____ Cumulative Index to Nursing and Allied Health Literature

If there are other printed periodical indexes (general or health-related) that you use to assist patrons in finding health information, please list them below:

G. Electronic Resources

____ Medline or Grateful Med
____ Consumer Drug Information (Full text)
____ Nursing and Allied Health Literature
____ Internet
____ Current Contents
____ InfoTrac
____ UMI
____ EBSCO

If there are other electronic resources that you use to assist patrons in finding health information, please list them below:

2. In general terms, how would you rate your library's total collection of consumer health materials for your community? (Check one)

least adequate		adequate		most adequate
1	2	3	4	5

Comments:

3. Please check all the functions which relate to health information services that you perform on a regular basis:

____ Selection/acquisition of health materials
____ Maintenance of health materials collection
____ Maintenance of vertical file for health information
____ Reference service to patrons in person
____ Reference service to patrons by telephone
____ Reference service to patrons by e-mail
____ Interlibrary loan services to patrons
____ Online database searching
____ CD-ROM searching
____ Supervision of staff who work with health materials
____ Public education related to health topics (e.g., organizing displays, programs, talks, tours, etc.)
____ Other (specify):_____

4a. How many years of professional experience have you had in library positions that included providing health information/reference service?

____ Years

Comments:

4b. How many years of non-professional experience have you had in library positions that included providing health information/reference service?

____ Years

Comments:

5. Please check all of the training/preparation that you have had for carrying out your current responsibilities relating to health information services?

____ Health-related diploma or degree (specify_____)
____ Library school course(s) on health resources
____ On-the-job experience or training
____ Workshops, seminars, continuing education courses, etc. held outside the library
____ Reading the professional library literature on health information services
____ Other (specify)_____

6. Which of the methods listed in question 5 has been most helpful to you?

7a. In your experience, approximately how often do public library patrons ask questions related to health?

____ Never
____ Rarely (less than 5%)
____ Occasionally (6% to 10%)
____ Often (11% to 24%)
____ Very often (greater than 25% of all enquiries received)

7b. In your experience, approximately how often do public library patrons request health materials from your library or through ILL?

____ Never
____ Rarely (less than 5%)
____ Occasionally (6% to 10%)
____ Often (11% to 24%)
____ Very often (greater than 25% of all enquiries received)

8. In your estimation, has there been any change in the proportion of health-related information requests in your library over the last three years?

____ Number of requests has increased
____ Number of requests has stayed about the same
____ Number of requests has decreased

Comments:

9. In your experience, approximately how often would you say you handle the following health-related questions?	Very Often	Often	Occasionally	Rarely	Never
information about specific disease(s)	1	2	3	4	5
information about medical treatment	1	2	3	4	5
information about self-care	1	2	3	4	5
information about alternative medicine	1	2	3	4	5
information about drugs (side effects, doses, contraindications, etc.)	1	2	3	4	5
information about self-help groups (e.g., Michigan Cancer Foundation, NORD, AIDS)	1	2	3	4	5
information about disease prevention or health promotion (e.g., lifestyle, diet, smoking, weight loss, etc.)	1	2	3	4	5
information about health care systems (e.g., physician's addresses, list of nursing homes, best hospitals, home care services, etc.)	1	2	3	4	5
information about health policy (e.g., AMA Protocols for Disease)	1	2	3	4	5
information about environmental health issues (e.g., water quality, contamination of soil, etc.)	1	2	3	4	5

Comments:

10. Based on your experience, would you estimate that the proportion of each type of information request has increased, stayed about the same or decreased over the last three years?	Increased	Stayed the same	Decreased
information about specific disease(s)	1	2	3
information about medical treatment	1	2	3
information about self-care	1	2	3
information about alternative medicine	1	2	3
information about drugs (side effects, doses, contraindications, etc.)	1	2	3
information about self-help groups (e.g., Michigan Cancer Foundation, NORD, AIDS)	1	2	3
information about disease prevention or health promotion (e.g., lifestyle, diet, smoking, weight loss, etc.)	1	2	3
information about health care systems (e.g., physician's addresses, list of nursing homes, best hospitals, home care services, etc.)	1	2	3
information about health policy (e.g., AMA Protocols for Disease)	1	2	3
information about environmental health issues (e.g., water quality, contamination of soil, etc.)	1	2	3

Comments:

11. Of the library patrons who request health information, what percent would you estimate fall into the following categories?

____ % students doing an assignment
____ % adults seeking personal health information
____ % government or business patrons
____ % other (specify)_____
100%

12. We are interested in the types of problems that you personally encounter when you receive a medical or health question. For each of the following problems, please indicate how frequently it occurs and add any comments or examples that will help to assess the extent of the problem.	Very Often	Often	Occasionally	Rarely	Never
The patron is unable or unwilling to present the question clearly, so that you have difficulty understanding what he/she wants to know	1	2	3	4	5
You understand basically what the patron wants to know, but neither of you knows enough about health or medicine to determine what sources might be useful.	1	2	3	4	5
You know that certain types of resources in your library might be useful but you have had inadequate training to use them effectively.	1	2	3	4	5
The resources in your library include language that you and/or the patron find too difficult to read/understand.	1	2	3	4	5
Your library owns the materials but they are not immediately available (e.g., they are out or missing).	1	2	3	4	5
Your library does not own the materials that might be most useful.	1	2	3	4	5
The types of sources that would be most useful (materials, finding aids, or organizations) are not published or do not yet exist.	1	2	3	4	5

You believe that you have found the answer but do not want to risk giving the wrong answer or providing medical advice or interpretation.	1	2	3	4	5
For problems that seem to require a referral to a health professional or health agency, you are unsure of the most appropriate procedure.	1	2	3	4	5
When conflicting evidence is found in the sources, you are unsure how to evaluate the sources and/or the information presented.	1	2	3	4	5

Comments:

13. What do you think would help you to improve your own service effectiveness with medical or health questions? (Mention as many kinds of help as you think are necessary.)

14. Size of population your library serves _____
(Number of people)

15. Total material budget $ _____
(Books, periodicals, electronic sources, AV, microfilm, etc.)

16. How would you describe your clientele?
____ % children aged 1-12
____ % adolescents aged13-18
____ % young adults aged 19-30
____ % adults aged 31-54
____ % mature adults aged 55 and over
100%

Please add any other comments about the questionnaire or suggest any additional ways of helping public librarians to meet the health information needs of their patrons.

Do you want a copy of the final report? Yes No

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. YOUR TIME AND EFFORT ARE GREATLY APPRECIATED. PLEASE RETURN THE QUESTIONNAIRE BY 11/08/96 IN THE ENCLOSED ENVELOPE TO:
Professor Lynda Baker, Library & Information Science Program,
Wayne State University, 103 Kresge, Detroit, MI 48202.

Compilation of Sources

The following list was compiled from all the titles provided by the respondents, as well as the ones included on the questionnaire. Verification of titles was done using a variety of sources, including Rees' book, the Brandon and Hill articles, OCLC, OCLC's First Search database, and Books in Print. Titles which could not be verified were not included on the list. Where possible, publication dates for each book have been included. When a number of editions were found for a book, the most current date was chosen. Therefore, the dates included on this list may not accurately reflect the collections of the respondents, who were not asked for this information.

Many respondents expressed the need for help in developing a consumer health collection. Two sources that may assist librarians in this activity include The consumer health information source book, edited by Alan M. Rees (1994) and Brandon and Hill articles on selected books and journals for allied health professionals, nurses, and small medical libraries. To determine the usefulness of these sources and to make this list more helpful in terms of collection development, titles that have been found in either or both of these sources are indicated by **(R)** for Rees or **(B & H)** for any of the three Brandon and Hill lists.

5 minute clinical consult for dental professionals, 1995.
A to Z of pregnancy and child care: A concise encyclopedia, 1994
AACN's clinical reference for critical care nursing, 1993 **(B & H)**
AARP pharmacy service: prescription drug handbook, 1992 **(R)**
ABC's of prescription drugs, 1987
Acupuncture: A comprehensive text, 1981
AIDS/HIV treatment directory, 1970
Albinus on anatomy, 1979
All about Eve: the complete guide to women's health and well being, 1995
Allergic diseases: diagnosis and management, 1993 **(B & H)**
Allergies A to Z, 1994
Alpha book on cancer & living: for patients, family and friends, 1996
Alternative health & medicine encyclopedia, 1995
Alternative health care resources, 1992
Alternative health guide, 1983
Alternative healthcare, 1996
Alternatives in healing: an open-minded approach to find the best treatment for your health problems, 1992 **(R)**
Alzheimer's disease: a guide for families, 1992 **(R)**
Alzheimer's, stroke and 29 other neurological disorders sourcebook, 1993
American Diabetes Association complete guide to diabetes, 1996
American druggist's complete family guide to prescriptions, pills and drugs, 1995
American Heart Association's your heart, an owner's guide, 1996
American Hospital Association guide to the health care field, 1994 **(B & H)**
American Hospital Formulary Service drug information 94, 1994
American Medical Association complete guide to women's health, 1996

American Medical Association encyclopedia of medicine, 1989 **(R)**
American Medical Association guide to prescription & over-the-counter drugs, 1988 **(R)**
American Medical Association guide to your family's symptoms, 1992
American Medical Association handbook of poisonous and injurious plants, 1985
American Medical Association home medical adviser: the new self-help guide to symptoms, disorders, diseases and medical emergencies, 1988
American Psychiatric Press textbook of psychiatry, 1994 **(B & H)**
American psychiatric glossary, 1994
American Red Cross first aid & safety handbook, 1992
American Red Cross standard first aid, 1992
Anatomy of the human body (Gray), 1985 **(B & H)**
Angry gut: coping with colitis and Crohn's disease, 1993 **(R)**
Bantam medical dictionary, 1990
Best doctors in America 1992-1993, 1992 **(R)**
Best hospitals in America, 1995
Best treatment, 1991 **(R)**
Better homes & gardens new family medical guide, 1982
Birthing book. Two nurses tell you how to have a easier labor and delivery, 1984
Black's medical dictionary, 1987
Blakiston's Gould medical dictionary, 1979
Book of 1001 home health remedies, 1993
Brain (human body), 1990
Broad range of clinical use of phenytoin, 1992
Broken cord, 1990 **(R)**
Callanetics fit forever, 1997
Cambridge world history of human disease, 1993
Cancer dictionary, 1992 **(R)**
Cancer medicine, 1993 **(B & H)**
Cancer sourcebook, 1991
Cancer therapy: the independent consumer's guide to non-toxic treatment and prevention, 1992 **(R)**
Cancer treatment, 1995
Caring for the caregiver: a guide to living with Alzheimer's disease, 1994
Caring for the mind: the comprehensive guide to mental health, 1996
Casarett and Doull's toxicology: the basic science of poisons, 1991 **(B & H)**
Cecil textbook of medicine, 1992 **(B & H)**
Child is born, 1986
Childhood symptoms: every parent's guide to childhood illnesses, 1992 **(R)**
Children with asthma, 1996
Children with autism: a parent's guide, 1996
Children's medicine chest, 1993
Choices: Realistic alternatives in cancer treatment, 1980
Choosing wisely: how patients and their families can make the right decision about life, 1992
Clinical toxicology of commercial products: Acute poisoning, 1984
Color atlas of human anatomy, 1993 **(B & H)**

Columbia University College of Physicians & Surgeons complete home guide to mental health, 1992 **(R)**
Columbia University College of Physicians & Surgeons complete home medical guide, 1995
Columbia University College of Physicians & Surgeons complete medical guide, 1989 **(R)**
Compendium of drug therapy, 1991
Complete book of medical tests, 1995
Complete book of men's health: the essential guide for men and women, 1995
Complete directory for people with chronic illness, 1997
Complete drug reference (Consumer's report), 1995
Complete drug reference, 1997
Complete guide to medical tests, 1988
Complete guide to pediatric symptoms, illness & medications, 1989
Complete guide to prescription & nonprescription drugs, 1997
Complete guide to symptoms, illness & surgery for people over 50, 1992
Complete guide to symptoms, illness & surgery, 1995
Complete guide to vitamins, minerals & supplements, 1988
Complete home healer: your guide to every treatment available for over 300 of the most common health problems, 1995
Complete illustrated book of better health, 1973
Complete medical guide, 1978
Complete women's herbal: a manual of healing herbs and nutrition for personal well-being and family care, 1995
Comprehensive textbook of psychiatry, 1995 **(B & H)**
Conn's current therapy 1995: latest approved methods of treatment for the practicing physician (Published annually) **(B & H) (R)**
Consumer health USA, 1995
Consumer's guide to drug interactions: everything you need to know for the safe and effective use of drugs in combination, 1993
Consumer's medical desk reference, 1995
Control of communicable diseases manual, 1995
Current medical diagnosis & treatment, 1995 **(B & H) (R)**
Current obstetric and gynecologic diagnosis & treatment, 1994 (B & H)
Current pediatric diagnosis & treatment, 1995 **(B & H)**
Current surgical diagnosis & treatment, 1994 **(B & H) (R)**
Dangerous properties of industrial materials, SAX, 1993
David L. Bassett's atlas of human anatomy, 1993
DeWeese and Saunder's otolaryngology—head and neck surgery, 1994 **(B & H)**
Diagnostic and statistical manual of mental disorders (DSM-IV), 1994 **(B & H) (R)**
Diagnostic tests handbook (Springhouse), 1987
Dial 800 for health, 1993 **(R)**
Dictionary of gerontology, 1988
Dictionary of medical syndromes, 1990 **(B & H)**
Dictionary of minerals: the complete guide to minerals and mineral therapy, 1985
Dictionary of vitamins, 1986
Directory of physicians in the United States (American Medical Association), 1994 **(B & H)**

Discovering homeopathy—medicine for the 21st century, 1991 **(R)**
Disease free: how to prevent, treat, and cure more than 150 illnesses and conditions, 1996
Diseases (Nurse's reference library), 1981
Disney encyclopedia of baby and childcare, 1995
Do-it-yourself medical testing, 1989 **(R)**
Doctor's book of home remedies for children, 1995
Doctor's book of home remedies, 1995
Doctor's book of home remedies: thousands of tips and techniques anyone can use to heal everyday health problems, 1991 **(R)**
Doctor's vitamin and mineral encyclopedia, 1991
Dorland's illustrated medical dictionary, 1994 **(B & H) (R)**
Dr. Spock's baby & child care, 1997
Dr. Susan Love's breast book, 1990 **(R)**
Drug facts and comparisons (published annually) **(B & H)**
Drug identification bible, 1997
Drug information for the consumer, 1990
Drugs and the human body with implications for society, 1996
Ear book: a parent's guide to common ear disorders of children, 1987
Eight-week cholesterol cure: how to lower your cholesterol without drugs or deprivation, 1990 **(R)**
Emergencies (Nurse's reference library), 1985
Encyclopedia of alternative health care, 1989 **(R)**
Encyclopedia of childbearing, 1994
Encyclopedia of depression, 1990
Encyclopedia of genetic disorders & birth defects, 1991 **(R)**
Encyclopedia of health (Marshall-Cavendish, 14 vols.), 1994
Encyclopedia of memory & memory disorders, 1994
Encyclopedia of mental health, 1993
Encyclopedia of natural medicine, 1991 **(R)**
Encyclopedia of phobias, fears, anxieties, 1989
Encyclopedia of schizophrenia & the psychotic disorders, 1992 (R)
Essential guide to non-prescription drugs, 1983
Essential guide to prescription drugs, 1993 **(R)**
Essentials of human embryology, 1997
Essentials of nutrition and diet therapy, 1997
Every woman's health, 1993 **(R)**
Everyone's guide to cancer therapy, 1991 **(R)**
Everything you need to know about diseases, 1996
Everything you need to know about medical tests, 1997
Everything you need to know about medical treatments, 1996
Everywoman's medical handbook, 1991
Eye (human body), 1995
Family first aid & medical guide, 1984
Family guide to natural medicine: how to stay healthy the natural way, 1993
Family guide to prescription drugs, 1993
Family guide to preventing and treating 100 infectious illnesses, 1995

Family health & medical guide, 1994
Family medical encyclopedia: the essential guide to health and medicine, 1987
Family medical guide (fix it yourself series), 1990
Family medicine: principles and practice, 1994 **(B & H)**
Fast food facts: complete nutrition information, 1994
Female heart: the truth about women and heart disease, 1991 **(R)**
Fishbein's illustrated medical & health encyclopedia, 1983
Food for health, 1986
Fundamentals of nursing: concepts & procedures, 1991 **(R)**
Fundamentals of nursing practice, 1989
Good Housekeeping illustrated guide to women's health, 1995
Good Housekeeping dictionary of symptoms, 1978
Good Housekeeping family health & medical guide, 1988
Goodman and Gilman's The pharmacological basis of therapeutics, 1995 **(B & H)**
Gray's pocket medical dictionary, 1995
Guide to prescription and over the counter drugs: brand name drugs, generic drugs, vitamins, minerals, food additives, 1988
Handbook of current health & medicine: I (nd)
Handbook of first aid & emergency care, 1990 **(R)**
Handbook of medical/surgical nursing (Springhouse), 1993
Handbook of non-prescription drugs, 1997
Handbook of nutritional value of foods, 1997
Handbook of pediatric infectious diseases: with annotated key references, 1992 **(B & H)**
Handbook of poisoning prevention, diagnosis and treatment, 1987 **(R)**
HarperCollins illustrated medical dictionary, 1993
Harrison's principles of internal medicine, 1994 **(B & H) (R)**
Harvard guide to women's health, 1996
Healing your body naturally, 1993
Health care book of lists, 1994
Heart and blood (human body), 1982
Heart disease (Braunwald), 1992 **(B & H) (R)**
Herbal medicine, 1996
High level wellness, 1986
Home health guide to poisons and antidotes, 1993
Home health handbook, 1989
How I survived prostate cancer...and so can you: a guide for diagnosing and treating prostate cancer, 1994
Human body in health and disease, 1996 **(B & H)**
Human body on file, 1983
Human body: a Prentice Hall illustrated dictionary, 1993
I'm too young to get old. Health care for women after forty, 1996
Illustrated family health encyclopedia, 1992
Illustrated guide to diagnostic tests (Springhouse), 1997
Inspection: a field guide to sexually transmitted diseases, 1989
Instructions for patients, 1994 **(B & H)**

International classification of diseases (IDC-9), 1995 **(B & H)**
Invisible epidemic: the story of women and AIDS, 1993
It's not a tumor: a patient's guide to common neurological problems, 1996
It's your body, 1992
Johns Hopkins medical handbook and directory: the 100 major medical disorders of people over the age of 50, 1996 **(R)**
Johns Hopkins symptoms & remedies: the complete home medical reference, 1995
Lennox Hill Hospital book of symptoms & solutions, 1994
Lippincott manual of nursing practice, 1996 **(B & H)**
Living heart diet, 1986
MacMillan health encyclopedia (9 vols.), 1993
Magic and medicine of plants (Reader's digest), 1986
Magill's medical guide: health & illness, 1996
Man's body, 1983
Man's guide to good health, 1991
Manual of natural therapy, 1990
Manual of skin diseases, 1991 **(B & H)**
Mayo Clinic family health book, 1990 **(R)**
Mayo clinic complete book of pregnancy & baby's first year, 1994
Mayo clinic heart book, 1993 **(R)**
Medical abbreviations, 1978
Medical meanings: a glossary of word origins, 1992
Medical tests and diagnostic procedures: a patient's guide to just what the doctor ordered, 1991 **(R)**
Medicines from the earth: a guide to healing plants, 1984
Melloni's illustrated medical dictionary, 1993
Men's health handbook, 1994
Menopause without medicine, 1992 **(R)**
Merck Index: an encyclopedia of chemicals, drugs and biologicals, 1996
Merck manual of diagnosis & therapy, 1992 **(B & H) (R)**
Merck manual of geriatrics, 1990
Merck manual. Vol 1. General medicine, 1992
Merrian Webster's medical desk dictionary, 1995
Michigan hospital performance report, Vol. 1, 1996; Vol. 2, 1997
Miller & Keane encyclopedia & dictionary of medicine and allied health, 1997 **(B & H) (R)**
Misdiagnosis: woman as a disease, 1994
Modern clinical psychiatry, 1982
Modern medical guide, 1986
Mosby's 1996 nursing drug reference, 1996 **(B & H)**
Mosby's comprehensive review of nursing, 1995 **(B & H)**
Mosby's diagnostic & laboratory test reference, 1995 **(B & H)**
Mosby's medical dictionary, 1993
Mosby's medical encyclopedia, 1985
Mosby's medical, nursing & allied health dictionary, 1994 **(B & H) (R)**
Mount Sinai Medical Center family guide to dental health, 1991 **(R)**
Mount Sinai School of Medicine complete book of nutrition, 1990 **(R)**

Nature's cures: from acupressure & aromatherapy to walking & yoga, the alternative guide to the best, scientifically proven, drug-free healing methods, 1996
NDR-96: nurse's drug reference, 1996 **(B & H)**
Nelson essentials of pediatrics, 1994 **(B & H)**
Nelson's textbook of pediatrics, 1992 **(B & H) (R)**
Net doctor, 1996
New A to Z of women's health: a concise encyclopedia, 1989 **(R)**
New American medical dictionary & health manual, 1992
New cancer sourcebook, 1996
New child health, 1987
New Good Housekeeping family health & medical guide, 1989 **(R)**
New illustrated family medical & health guide, 1993
New illustrated medical & health encyclopedia (4 vols), 1970
New our bodies, our selves: a book by and for women updated and expanded for the 1990's, 1992 **(R)**
New understanding surgery; complete surgical guide, 1976
New wellness encyclopedia, 1995
Novak's textbook of gynecology, 1988
Nutrition bible: a comprehensive no nonsense guide to foods, nutrients, additives, preservatives, pollutants and everything, 1995
Nutrition desk reference, 1985
Official ABMS directory of board certified medical specialists, 1995 **(B & H)**
One hundred drugs that work: guide to prescription and non-prescription drugs, 1994
Optimal wellness, 1995
Our bodies, our selves, 1973
Oxford medical companion, 1994
Oxford textbook of surgery, 1994
Parent's desk reference, 1991
Patient's desk reference: thousands of medications indexed by illness, 1988
Patient's desk reference: where to find answers to medical questions, 1994
Patient's guide to medical tests, 1986
PDR drug interaction & side effects, 1992
PDR family guide to nutrition & health: the facts to remember, the claim to forget, 1995
PDR family guide to prescription drugs, 1993 **(R)**
PDR generics, 1996
PDR guide to drug interactions, side effects, indications (nd)
PDR pocket guide to prescription drugs, 1996
People's book of medical tests, 1985
People's guide to deadly drug interactions: how to protect yourself from life-threatening drug/drug, drug/food, drug/vitamin combinations, 1995
People's guide to vitamins & minerals, from A to zinc, 1980
People's medical manual: everything you need to know about health and safety, 1986
Personal health reporter: excerpts from current articles on 148 medical conditions and treatments and other health issues, 1992 **(R)**
Personal health, 1965

Pharmaceutical dictionary & reference for prescription drugs, 1982
Physician GenRx, 1995 **(B & H)**
Physician's desk reference for non-prescription drugs (published annually) **(B & H)**
Physician's desk reference, (published annually) **(B & H)**
Physician's guide to rare diseases, 1995
Physician's manual for patients, 1984
Pill book guide to children's medications, 1994
Pill book, 1992 **(R)**
Poisoning by arsine & its prevention, 1974
Portable pediatrician for parents, 1994
Prenatal tests: What they are, their benefits & risks, & how to decide whether to have them or not, 1988
Prentice-Hall dictionary of nutrition & health, 1985
Prescription drug handbook, 1992 **(R)**
Prescription drugs (Consumer Guide Editors), 1997
Prevention magazine's complete book of vitamins and minerals: the latest facts about using nutrition as a powerful force for health and healing, 1994
Prevention's giant book of health facts: the ultimate reference for personal health, 1992
Principles of surgery, 1993 **(B & H)**
Professional guide to diseases, 1995 **(B & H)**
Professional guide to signs & symptoms, 1995
Psychiatric drugs (nd)
Pulmonary diseases & disorders (Fishman), 1993
Reader's digest Family health guide & medical encyclopedia, 1976
Rockport walking program, 1989
Rodale's encyclopedia of natural home remedies, 1982
Scientific American Medicine, 1995 **(B & H)**
Sexually transmitted diseases: a current approach, 1992
Signs & symptoms, 1994
Sports doctors fitness book for women
Sports medicine, 1992 **(B & H) (R)**
Staying healthy in a risky environment: The New York University Medical Center family guide, 1993.**(R)**
Staying on top when your world turns upside down, 1991
Stedman's medical dictionary, 1995 **(B & H)**
Surgery book, 1997
Surgery on file (5 vols), 1988, 1989
Symptoms and early warning signs: a comprehensive guide to more than 600 medical symptoms and what they mean, 1994
Symptoms: their causes & cures, 1996
Tabor's cyclopedic medical dictionary, 1993 **(B & H)**
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